

# Appendix D

## MSL Include File

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This appendix contains a listing of the MSL include file that defines various structures, macros, and equates used by MSL drivers. This file should be included at the beginning of all MSL drivers.



```

;*****
; MSL Include File
;*****

;*****
; Global Structures
;*****

AESEventStructure          struc

    AESLink                dd        ?
    AESWakeUpDelayAmount   dd        ?
    AESWakeUpTime          dd        ?
    AESProcessToCall       dd        ?
    AESRTag                dd        ?
    AESOldLink             dd        ?
    MessageTimeoutTime     dw        ?
    AdapterTimeoutTime     dw        ?

AESEventStructure          ends

TimerDataStructure        struc

    TLink                  dd        ?
    TCallbackProcedure     dd        ?
    TCallbackEBXParameter  dd        ?
    TCallbackWaitTime     dd        ?
    TResourceTag           dd        ?
    TWorkWakeUpTime       dd        ?
    TSignature             dd        ?

TimerDataStructure        ends

IOConfigurationStructure  struc

    CLink                  dd        ?
    CFlags                 dw        ?
    CSlot                  dw        ?
    CIOPort0               dw        ?
    CIOLength0             dw        ?
    CIOPort1               dw        ?
    CIOLength1             dw        ?
    CMemoryDecode0        dd        ?
    CMemoryLength0        dw        ?
    CMemoryDecode1        dd        ?
    CMemoryLength1        dw        ?
    CInterrupt0           db        ?
    CInterrupt1           db        ?
    CDMAUsage0            db        ?
    CDMAUsage1            db        ?
    CIOResourceTag        dd        ?
    CConfiguration        dd        ?
    CCommandString        dd        ?
    CLogicalName          db        18 dup (?)
    CIOReserved           db        16 dup (?)

IOConfigurationStructure  ends

```

```

IOOptionStructure          struc
    NumberOfOptions        dd    ?
    OptionData              dd    ?
IOOptionStructure          ends
    
```

```

AdapterOptionStructure     struc
    IOSlot                  dd    ?
    IOPort0                  dd    ?
    IOLength0                dd    ?
    IOPort1                  dd    ?
    IOLength1                dd    ?
    MemoryDecode0           dd    ?
    MemoryLength0           dd    ?
    MemoryDecode1           dd    ?
    MemoryLength1           dd    ?
    Interrupt0              dd    ?
    Interrupt1              dd    ?
    DMA0                     dd    ?
    DMA1                     dd    ?
AdapterOptionStructure     ends
    
```

```

;*****
; Global Macros
;*****
    
```

```

Message macro      MessageName, MessageString
                  local   StringEnd, StringBegin

MessageName       db      StringEnd - StringBegin
StringBegin       db      MessageString
StringEnd         db      0

                  endm
    
```

```

CPush  macro

    push    ebp
    push    ebx
    push    esi
    push    edi

    endm
    
```

```

CPop  macro

    pop     edi
    pop     esi
    pop     ebx
    pop     ebp

    endm
    
```

```

;*****
; Global Equates
;*****

AESProcessSignature      equ    'PSEA'
InterruptSignature       equ    'PTNI'
IORegistrationSignature  equ    'SROI'
MSLSignature            equ    'DLISM'
SetableParameterSignature equ    'MPTS'
TimerSignature          equ    'RMIT'

EOI                      equ    20h
InterruptCtrlRegister    equ    20h
InterruptMaskRegister    equ    21h
ATInterruptCtrlRegister  equ    0A0h
ATInterruptMaskRegister  equ    0A1h
CHAIN_SET_REAL_MODE     equ    4

BAD_COMMAND              equ    0FFFFFF81h

CR                       equ    0Dh
LF                       equ    0Ah
BELL                    equ    07h

TRUE                     equ    -1
FALSE                   equ    0

HARDWARE_ERROR          equ    0
TIME_OUT_ERROR          equ    1
OTHER_SERVER_DEAD_ERROR equ    2

ISA_BUS                 equ    0
MICRO_CHANNEL_BUS       equ    1
EISA_BUS                equ    2

ParmOffset              equ    20
Parm0                   equ    ParmOffset + 0
Parm1                   equ    ParmOffset + 4
Parm2                   equ    ParmOffset + 8
Parm3                   equ    ParmOffset + 12
Parm4                   equ    ParmOffset + 16
Parm5                   equ    ParmOffset + 20
Parm6                   equ    ParmOffset + 24
Parm7                   equ    ParmOffset + 28
Parm8                   equ    ParmOffset + 32
Parm9                   equ    ParmOffset + 36
Parm10                  equ    ParmOffset + 40
Parm11                  equ    ParmOffset + 44
Parm12                  equ    ParmOffset + 48
Parm13                  equ    ParmOffset + 52
Parm14                  equ    ParmOffset + 56
Parm15                  equ    ParmOffset + 60
Parm16                  equ    ParmOffset + 64
Parm17                  equ    ParmOffset + 68
Parm18                  equ    ParmOffset + 72
Parm19                  equ    ParmOffset + 76
Parm20                  equ    ParmOffset + 80

```

```

NeedsIOSlotBit          equ      1h
NeedsIOPort0Bit        equ      2h
NeedsIOLength0Bit      equ      4h
NeedsIOPort1Bit        equ      8h
NeedsIOLength1Bit      equ     10h
NeedsMemoryDecode0Bit equ     20h
NeedsMemoryLength0Bit  equ     40h
NeedsMemoryDecode1Bit equ     80h
NeedsMemoryLength1Bit equ    100h
NeedsInterrupt0Bit     equ    200h
NeedsInterrupt1Bit     equ    400h
NeedsDMA0Bit           equ    800h
NeedsDMA1Bit           equ   1000h

CAN_SET_NODE_ADDRESS   equ    40000000h
MUST_SET_NODE_ADDRESS  equ    80000000h

;*****
; define the CFlag bits
;*****

IODetachedBit          equ      1h
IOSharePort0Bit        equ      2h
IOSharePort1Bit        equ      4h
IOShareMemory0Bit      equ      8h
IOShareMemory1Bit      equ     10h
IOShareInterrupt0Bit   equ     20h
IOShareInterrupt1Bit   equ     40h
IOShareDMA0Bit         equ     80h
IOShareDMA1Bit         equ    100h

;*****
; The driver has its own command line info to put in the .NCF file
;*****

IOHasCommandLineInfo  equ      200h

;*****
; The driver doesn't want any of the default info put in the .NCF file
;*****

IODontDefaultCommandLine equ    400h

;*****
; define the mode flags
;*****

RealDriverBit          equ      1
DriverUsesDMABit       equ      2
DriverIs100PercentReliableBit equ  4
DriverSupportsMulticastBit equ    8
DriverSupportPromiscuousModeBit equ 10h
DriverNeedsPollingBit  equ    20h

;*****
; define the driver flags
;*****

OEMDriverBit           equ    8000h

```